

Categories have been arranged for alignment with CEN's 2019-2024 [Strategic Plan](#).

## 1. Provide Value

---

- 2021 Rate announcement
  - Effective July 1, 2021
  - 2% average reduction across all tiers
  - Continues CEN's 20-year history of lowering and/or maintaining rates to all members
- COVID Bandwidth Bonus Program
  - Providing K-12 members additional bandwidth to meet the demands of their hybrid instructional models at a one-time charge of \$500 and no charge for the additional bandwidth
  - Maintains their full E-Rate eligibility
  - 55 public school districts, 3 private K-12, and 1 higher ed participating to date, more inquiring and likely coming.
- Filtering, 1:1 Support, Student Safety
  - Addition of iBoss Cloud to Core licensing agreement supporting 1:1, at home CIPA compliance, and students at risk module. 33 K-12 Member Districts Leveraging.
  - Securely scale pricing model level set pricing across all districts for net savings.
    - 27 K-12 Member Districts Leveraging.
    - \$619,071 savings compared to standard contract pricing.
- COVID-19 Testing Support
  - CCSU, SCSU, WCSU, ECSU
  - Network Connections supporting clinical providers administering COVID tests.
- CT Library Fiber Consortium Project
  - Project to connect libraries through federal E-rate and matching State Library bond funds.
  - Many project sites connect underserved communities where connectivity options have remained relatively unchanged for decades. This project provides high quality service at reasonable costs to bridge gaps in the digital divide and help libraries continue to thrive as community assets.
  - Phase 5: 18 sites have library/town approval to move forward.
  - The current project across all phases (1–5) will bring total fiber-connected libraries to 168 (including 47 branches), representing 70% of all 239 libraries statewide.
  - Total savings on funding years 1-4 is \$1,392,000 (FCC/USAC E-Rate dark finder IRU savings).
  - Awarded Phase 6 on January 14, 2020 targeting remaining eligible libraries. 2 committed.
  - Connecticut Libraries Fiber Consortium posted E-rate bid for Phase 7. Eight libraries interested.
- New Members/Customers since the last Commission meeting (in order of turn up)
  - Hamden Hall Davis Campus
  - Andover Town Hall
  - The Community Foundation for Greater New Haven
  - Park City Prep Charter School
  - News 12 Networks
  - East Granby Fire and Rescue
  - Ansonia Police Department
  - Watertown Police Department
  - Town of Madison
  - Danbury Public Library
  - Willington Center Elementary School

## 2. Ignite Innovation

---

- Firewall Service <https://ctedunet.net/managed-firewall/>

- Goal is to provide a high quality, high capacity, next generation firewall experience that can scale with member bandwidth growth and provide a front-line defense for our organizations.
- Value proposition: With DDOS protection, security is an arms race, and CEN can leverage economies of scale to procure a solution larger and more feature-rich than what members may otherwise afford.
- Two versions offered:
  - Virtual firewall (vFirewall) - member managed rulesets and policies
  - Managed Firewall (mFirewall) partner Managed Security Services provider managing rulesets and policies on behalf of members
  - Both E-Rate eligible
- 16 members leveraging the service. +1 since last update.
- Cloud Connect Service <https://ctedunet.net/cloud-connect/>
  - Goal is to provide connectivity to cloud providers to enable more advanced and robust services at scale to benefit member business and service needs.
  - In partnership with Internet2, no-cost transport for community anchor institutions to Amazon Web Services, Google Cloud Platform, and Microsoft Azure Express Route. 5Gbps limit
  - Since announced in April, four members committed and are in various stages of progress
- Rapid Private Interconnect (RPI) Service
  - Dedicated ports, bandwidth, and cross connects to any NEREN and/or Internet2 POP location regionally or nationally.
  - For members who require dedicated physical connections for capacity, diversity, and/or increased security.
  - Fee based model, 10Gbps connection/min commit + cross connect fees; 2 Members using.
  - Website in development.
- Eduroam <https://www.eduroam.us/>
  - Goal is to help with digital divide issues impacting students in learning areas and provide more seamless network access experience for students.
  - Tom Dillon helping coordinate activities as CET Infrastructure Advisory Council Chair, with CEN resource and fiscal support.
  - Pilot districts and neighboring Higher ed include: Metro Hartford Information Systems (MHIS) and Trinity College; Middletown Public Schools, Library, and Wesleyan University; New Haven Public Schools and SCSU; Stratford Public Schools.
  - City of New Haven Committed and is rolling out as part of COVID response.
  - Discussions with Internet2 on programmatic approach to rolling out the service across a state.
- Other services are in development and will be prioritized based on community feedback
  - With help of SMAC Chair, items categorized and prioritized
  - UConn procurement assisting with RFP development
  - Aligning initiatives with existing UConn RFP cycle where possible to make more efficient use of time and effort

### 3. Foster Collaboration

---

- Engagement and Development Advisory Council (EDAC)
  - Chairs: Karen Warren (Wesleyan); Rebecca Osleger (Suffield)
  - UN-Conference Program <https://ctedunet.net/engagement-events/> ended in November.  
Session date, member registrations, and titles include:
    - 6/17 – 39 Members - Keeping Students Safe at Home - Featuring Securly
    - 6/25 – 27 Members - Keeping Students Safe at Home - Featuring iboss

- 7/16 – 71 Members - Network Recommendations in the Age of COVID-19
- 7/22 – 86 Members - Data Privacy and Contact Tracing
- 8/13 – 35 Members - Effective Vulnerability Management with MERIT
- 9/30 – 19 members - Using Personas for Accessible Design
- 10/21 – 55 Members - No-Cost Cybersecurity Tools and Resources with the MS-ISAC
- 11/13 – 41 Members - Goodness Gracious, Great Walls of Fire: CEN's Border Firewall for Advanced Protection
- Annual Conference; May 11-14, 2020. <https://ctedunet.net/annual-conference/>
  - Conference will be virtual
  - Formant is 4 Morning Sessions and 4 Afternoon Sessions over 4 days
  - Event website and call for proposals are pending and will be announced soon.
- Service Management Advisory Council (SMAC) & Technical Advancement Advisory Council (TAAC)
  - Combined the two advisories into one
  - Chairs: Matt Ross (Farmington Public Schools), Jonathan Garbutt (SCSU).
  - Survey for additional services and prioritization complete.
  - Procurements groupings complete for RFP prioritization and development.
  - Developing technical criteria for NextGen CEN network
  - Organizing around new topics as group comes together as one.
- CEN Cyber Corps and Mutual Aid Pact in scope development, *on hold*.
  - Framework for technical mutual aid & training amongst the membership & related community.
  - Communicating and collaborating with DESPP Region 3 where initiatives overlap.
  - Layered approach based on incident scale and response needed.
  - Focused on training, assessments, remediation if/when incidents happen.
  - Compliment forensic analysis efforts by public and/or private companies.
  - CEN and Region 3 agreed to put on joint efforts on hold and participate in the newly formed *Volunteer Cyber Incident Response Team (VCIRT)* subcommittee of the State Cybersecurity Committee.
- *Volunteer Cyber Incident Response Team (VCIRT)*
  - 24 participants met from June – September; Director Kocsondy represented CEN.
  - Group was unable to come to consensus on a framework for a volunteer cyber response group.
  - Committee chairs called a vote for 4 options presented/discussed (1-National Guard, 2-CTIC, 3-Mutual Aid, 4-Continue Working Towards Goal)
  - 9 of the 24 participants responded/voted; National Guard proposal received 5 votes while Continue Working Toward Goal received 4.
  - Committee Chairs presented to the State Cybersecurity Committee in late September.

## 4. Promote Advocacy

---

- Office of the Governor – Broadband Deployment Group
  - Participated in Governor's initiative to address broadband issues
  - Near term goal was to provide solutions to address remote learning, telehealth, business and other activities through the COVID crisis
  - Groups first output is the [Everyone Learns Initiative](#)
  - Group strategizing around mapping, policy updates, minimum bandwidth requirements, technologies, etc.
- Everyone Learns Initiative - WiFi Hotspot Project <https://ctedunet.net/everyonelearnswifiinitiative/>
  - Leverage CEN network and member locations to provide WiFi Hotspots across 40 Target Towns

- Original scope was \$2.2M; \$1.7M authorized to provide walk-up/drive up WiFi service through external/on-building mounted 802.11AX wireless access points. 5 Month rollout.
- Cost include software licensing, equipment, enclosures, wiring, material, labor, project management, bandwidth, etc.
- APs and installation are donated to the participating member location; CEN will manage for the first year.
- Internet2 (I2) Community Anchor Program (CAP) Presentation 10/15
  - Rachael Collard served as a panelist on 'Next Steps for Research & Education Networks: Learning from the Pandemic'
  - I2 CAP Community presentation and discussion on lessons learned through COVID and how to leverage this newfound urgency to get more results and reach new communities. Looks at the successes, challenges, and barriers we face ahead.
- SHLB Broadband Mapping Letter to Congress 12/4
  - CEN supporting SHLB authoring a letter to advocate for full funding of FCC efforts for broadband mapping and must include Community Anchor Institutions, who to date have been left out.
  - Mapping efforts historically focus on residential and business, and this effort is to ensure a more comprehensive approach and set a new baseline impacting future policy decisions.
  - 55 Signatories for various states supporting.

## 5. Enhance Core Resources

---

- CEN Staff
  - CEN currently has 10 full-time staff members, 4 part-time student workers, and 1 volunteer (1 day /week).
  - Added - Fiscal Manager 1 Rori Ziegwied – Split position with ITS – 40% allocated to CEN
  - Network Engineer 3 - Failed search. Developing new JD.
  - Financial Assistant 2 - Filled. Gregory L Ryan started October 8.
- Server Infrastructure Replacement Project
  - New compute infrastructure acquired to replace ageing equipment. Will save staff management time, increase capacity, lower power consumption, and reduce rack space.
  - Nutanix solution implemented and complete.
- DNS Service Upgrade
  - Implemented new InfoBlox PT Appliances supporting Authoritative DNS Hosting for members.
  - Provides additional built-in DDoS protections within the appliances for added protection.
  - Enables DNS Firewall capabilities at no cost to members through RPZ feed.
  - Enables BloxOne capability for 1:1 needs and agent-based reporting.
- Hub/Distribution Layer Equipment Upgrades
  - \$1.5 M bond allocated to replacing devices at distribution layer of the network that are end of life/end of support.
  - Design complete, equipment received, config templates built, and implementations started.
  - COVID related challenges include travel, scheduling, and access to site facilities.
- Extranet Projects
  - NEREN Collaboration (MA, ME, NH, NY, RI, VT) for increased connectivity into NYC and Boston areas as the busiest telco areas in the Northeast, increasing CEN's capability and reach.
  - Will result in more diverse options and lower commodity Internet rates, increase commercial peering to reduce costs, backhaul opportunities to Ashburn (VA) and Chicago, and peering partnerships with other Regional Optical Networks (RONs) within the research and education network space.

- Will align a Tier 1 Carrier/Backbone Internet Service Provider and Internet2 to each of the 3 Core sites at 100Gbps handoff each.
- Massachusetts – Boston and Cambridge - Complete
  - 2x100 Gbps link turned up in Cambridge, Ma (300 Bent Street)
    1. 3x10 Gbps peering to Mass-IX
    2. Direct peering with NEREN partners
  - 2x100 Gbps link turned up in Boston, Ma (1 Summer, Markley Building)
    1. GTT (Tier 1 Backbone Internet Provider) – 20 Gbps Commit on 100Gbps Handoff
- New York - Manhattan -32 Avenue of the Americas - Complete
  - 2x100 Gbps connectivity online as of Feb 28, 2020
  - DE-CIX Global peering exchange, 40G commit on 100G handoff, online as of March 15
    1. 10G to Apple – April 8<sup>th</sup>
    2. 10G to Microsoft – April 27<sup>th</sup>
  - Second Internet2 link - 100G commit and handoff – online as of April 28th
- RFP for IP transit is still in progress and on hold within UConn Procurement due to staff turnover and backlog. All proposals have been evaluated and scored. Currently in contracting phase.
- Policy Review (on hold)
  - Incremental progress. Plan is to revise / update as needed, circulate to CEN Advisory councils for comment, submit to CET for the June meeting.